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(586) *O. selebrosus* Casey. On cotton, a new host plant.

(671) *Auleutes cruralis* Lec. Taken in a damp meadow along Hog Town Creek near Gainesville. Apparently the first record from Florida.

(748) *Conotrachelus coronatus* Lec. Collected in the same locality as the last. Described from Enterprise, Fla., and heretofore known only from there and Vero.

(760) *Chalcodermus collaris* Horn. Taken from corn at Gainesville by H. L. Dozier Aug. 16, 1916, and on cotton at Branford, Fla., by Mr. J. F. L. Lindsey. Both of these are new hosts. This species looks like its near relative, the cowpea pod-weevil, but the surface of the thorax is covered with a network of ridges instead of sunken dots.

J. R. WATSON.

NEW THYSANOPTERA FROM FLORIDA—VIII

J. R. WATSON

(Continued from page 30)

KEY TO NORTH AMERICAN SPECIES OF HETEROTHRIPS

- I. Antennae with ten segments.....*H. decacornis* Crawford.
- II. Antennae with nine segments.
 - a. Without circles of distal sensoria on antennal segment 4.
 - H. salicis* Shull.
 - aa. Segment 4 of antennae with distal circles of sensoria.
 - b. At least part of the abdominal tergites bordered with scales with fringed margins.
 - c. Abdomen not pubescent.
 - d. Prothorax twice as long as the head. U. S.
 - H. arisaemae* Hood.
 - dd. Prothorax not twice as long as head. W. I.
 - H. borinquen* Hood.
 - cc. Abdomen more or less pubescent.
 - d. Abdomen sparsely pubescent.
 - e. Whole antennae more or less yellow. Panama.
 - H. flavicornis* Hood.
 - ee. Only segment 3 always yellow.....*H. lyoniae* Hood.
 - dd. Abdomen more densely pubescent.
 - e. Prothorax sculptured with anastomosing lines. Western.....*H. pectinifer* Hood.
 - ee. Prothorax free of sculpture except for a few lines.
 - (*H. azaliae* Hood) *H. aesculi* Watson.
 - bb. Abdominal tergites fringed posteriorly with hairs which are not at all coalesced into scales. Abdomen closely pubescent.

c. Third antennal segment 3.6 times as long as wide.

H. analis Hood.

cc. Antennal segment 3 less than 3 times as long as wide.

d. Length 1.00 mm.; antennal segment 3 61 microns long,
orange tinted.....*H. vitis* Hood.

dd. Length .75 mm.; antennal segment 3 48 microns long,
no orange.....*H. tiliae* n. sp.

69. *Euthrips grandiculus*, n. sp.

Color almost uniformly brown; tibiae and tarsi lighter brown; posterior segments of the abdomen darker.

Average measurements: Total body length 1.32 mm. Head, length .122, width .133 mm.; prothorax, length .13, width .145 mm.; mesothorax, width .20 mm.; metathorax, width .17 mm.; abdomen, width .20 mm. Antennae, total length .20 mm.

Segment	1	2	3	4	5	6	7	8	9
Length	21	31	39	37	34	33	11	8	12 microns
Width	28	24	17	17	16	17	11	5	4 microns

Head wider than long, rounded in front, cheeks slightly arched, dorsal surface coarsely reticulated posteriorly, spines short and inconspicuous. *Eyes* large, protruding, occupying half the length of the head and two thirds the width. *Ocelli* sub-approximate, large, bordered with deep orange crescents. *Mouth-cone* long, reaching nearly across the prosternum, rather blunt at the very tip which is nearly black. Antennae about 1.6 times as long as the head, apparently 9-segmented thru an oblique division of segment 6; Segments 1 and 2 concolorous with the head, 3-5 brownish yellow, 6-9 lighter brown; sense cones rather thick and long but colorless and decidedly inconspicuous.

Prothorax quite square in outline, but little wider than the head and nearly as long as wide. No prominent spines. Mesothorax wider than the prothorax; fore angles rounded; sides quite strongly arched. Metathorax considerably narrower than the mesothorax; sides nearly straight and parallel. Legs rather short. Stout spines on the inner side of hind tibiae. Black spot at tip of tarsi less conspicuous than in *E. obscurus*. *Wings* rather short, membranes of the fore pair brown; veins quite prominent, each one bearing 8 stout bristles. Hind wings nearly clear.

Abdomen quite long, cylindrical. Conspicuous bristles on the last two segments only.

Described from five females collected from grass at Moore Haven, Fla., June 13, 1920.

Very close to *Euthrips obscurus* [*Anaphothrips striatus* (Osborn)] but differs in its darker color, protruding eyes, longer mouth cone, prothorax longer and more nearly square in outline (i. e. less rounded at the angles), shorter legs, mesothorax with less obtusely rounded fore angles, metathorax not smoothly joined to the mesothorax.

70. *Eurythrips longilabris*, n. sp.

Female. *Measurements*: Total body length 1.14 mm.; head, length 0.13 mm., width 0.14 mm.; prothorax, length 0.13, width across coxae 0.24;

mesothorax, width 0.24; metathorax, greatest width 0.27; abdomen, greatest width 0.24 mm. Antennae, total length 0.34 mm.

Segment	1	2	3	4	5	6	7	8
Length	35	42	58	57	52	38	28	28 microns
Width	33	28.5	28	27	27	27	21	14 microns

General color light, yellowish brown; head, antennae, and tube darker, a dark tan color, body under reflected light shows much bright yellow hypodermal pigmentation.

Head about as long as wide, narrowed in front, vertex elevated and projecting forward between the bases of the antennae. Cheeks bulging abruptly behind the eyes, elsewhere nearly straight, diverging slightly posteriorly, roughened by small wart-like swellings which bear short bristles.

Eyes small, occupying a little over a third of the length and two fifths of the width of the head. *Ocelli* yellowish brown, very large but inconspicuous, anterior one situated far forward between the bases of the antennae, facing forward; posterior pair widely separated, situated opposite the anterior part of the eyes but far removed from their margins. Post-ocular bristles long and sharp pointed, projecting far beyond the eyes. Two pairs of smaller bristles situated posterior to them and a somewhat larger pair mediad. Two small ones behind and one in front of each ocellus. *Mouth cone* long and slender, sharp-pointed at the tip, reaching quite across the prosternum. *Antennae* 2.5 times as long as the head. Segments large and heavy; 1 and 3 about concolorous with the head; 2 lighter, brownish yellow; the others darker brown than the head; bristles and sense cones long and thick but pale.

Prothorax trapezoidal, about as long as the head; widening sharply posteriorly; posterior angles broadly rounded; a long acute spine on each angle, subequal in length; and one about the middle of each side.

Mesothorax about as wide as prothorax, a slight constriction in the middle; closely united to the metathorax whose sides are straight and parallel. *Legs* of medium length, fore femora slightly enlarged; fore tarsi with a small, sharp spine. *Wings* short, membrane brown, fringed with long but comparatively few hairs.

Abdomen rather short but longer than in some of the species of the genus, sides nearly parallel to the 8th segment and then abruptly rounded; lateral bristles rather short, pale. Tube very short; terminal bristles scarcely as long as the tube.

Male unknown.

Described from a single female taken about a light at night. August, 1920, Gainesville. Type in the author's collection.

This species agrees with *E. hindsii* Morgan in the roughened antennal segments, acute spines, and narrower body, but differs in color, long mouth parts, presence of wings and ocelli, and numerous minor characters.

KEY TO THE SPECIES OF EURYTHRIPS

- a. Mouth cone short and blunt; spines of the body blunt.
- b. Width of the abdomen about 1.7 that of the prothorax; antennae twice as long as the head.....*E. ampliventris* Hinds.

- bb. Abdomen about 1.25 times as wide as prothorax; antennae about 2.5 times as long as the head.....*E. osborni* Hinds.
- aa. Mouth cone sharp-pointed at the tip; spines of the body acute.
 - b. Mouth cone reaching only middle of prosternum.....*E. hindsii* Morgan.
 - bb. Mouth cone reaching across the prosternum.....*E. longilabris*, n. sp.

KEY TO N. A. SPECIES OF HAPLOTHRIPS

- I. Post-ocular spines small or wanting. Antennae almost uniformly brown except segment 3 and base of 4 which are light brown.
 - a. Brown, with reddish, hypodermal pigment. Wing membrane brown for half its length. Tarsal spine large.....*H. statices* Haliday.
 - aa. Brown with black hypodermal pigment. Wing membrane brown at extreme base only. Tarsal spine inconspicuous. *H. cassiae* Watson.
- II. Post-ocular bristles well developed.
 - a. Post-ocular bristles and most of those of the thorax knobbed.
 - b. Sides of the head set with minute bristles, surface roughened; fore tarsi with a large tooth; 10 to 12 accessory hairs on the fore wings.....*H. flavipes* Jones.
 - bb. Sides of head with few inconspicuous bristles.
 - c. Eyes produced posteriorly on the ventral side. Wings normal length.
 - d. Head faintly sculptured; no interlocated hairs on fore wings; tibiae brown.....*H. bellus* Hood and William.
 - dd. 3 or 4 interlocated hairs; head almost free of sculpture; tibiae pale yellow.....*H. tibialis* Hood.
 - cc. Eyes not produced posteriorly.
 - d. No interlocated hairs; wings only half the length of the abdomen.....*H. gracilis* Watson.
 - dd. 4 to 7 interlocated hairs; wings normal length.
 - e. Post-ocular bristles short..... *H. Dozieri* Wats.
 - ee. Post-ocular bristles long.
 - f. Head wider posteriorly; tibiae brown.
 - g. Head about as long as wide; sides of prothorax bulging.....*H. gowdeyi* Franklin.
 - gg. Head longer than wide; sides of prothorax concave. *H. merrilli* Watson (20-b)
 - ff. Head narrower posteriorly; tibiae yellow. *H. funki* Watson.
 - aa. Post-ocular bristles not knobbed.
 - b. Apex of femora with small anteriorly directed tooth within.
 - c. Antennae uniformly dark brown; terminal bristles shorter than the tube.....*H. jonesi* Karny (*H. nigricornis* Jones).
 - cc. Antennal segment 3 brownish yellow; terminal bristles longer than the tube.....*H. haplophilus* Hood.
 - bb. Apex of femora toothless.
 - c. Wings clear except a brownish area at base.

- d. Antennae twice as long as head, usual sense cones present on segment 3.
- e. Bristles of the anterior and posterior margins of prothorax about equal.
- f. Antennal segments 3-6 bright yellow; abdominal spines (except those of the tube) slender and faint; prothorax about 1.5 times as wide as long.
H. verbasci (Osborn)
- ff. Antennal segments 3-6 light brown or yellow; abdominal spines stout and conspicuous; prothorax about twice as wide as long.....*H. variabilis* (Crawford).
- ee. Bristles of the anterior margin of the prothorax much shorter.
- f. No interlocated hairs on wing.....*H. malifloris* Hood.
- ff. About 20 interlocated hairs.
H. orlando Watson and Osborn.
- dd. Antennae less than twice the length of the head.
- e. No sense cones on the inner surface of segment 3.
- f. Prothorax less than twice as wide as long.
- g. Only antennal segment 3 entirely yellow or brownish yellow.
- h. Antennal segment 3 shorter than 2.
H. graminis Hood.
- hh. Antennal segment 3 longer than 2.
H. pini (Watson) (Cryptothrips pini Wats.)
- ff. Prothorax nearly or quite twice as wide as long.
- g. Antennal segments 3-6 yellow, 3 longer than 2.
H. faurei Hood.
- gg. Only antennal segment 3 yellow, shorter than 2.
H. humilis Hood.
- ee. Sense cones present on segment 3.....*H. querci* Wats.
- cc. Wings clouded with gray with a nearly black area at the base and a paler one just before the middle, 2 interlocated hairs.
H. nubilipennis Hood.

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